



The Solutions Network

Rochester, New York

NewWind Energy®



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Community Energy, Inc. (CEI)

- ❖ **Mission**
 - *Ignite the market and deliver "fuel free", emission-free renewable electricity at affordable rates.*
- ❖ **Nation's leading marketer of wind power.**
- ❖ **Founded in 1999.**
- ❖ **CEI arranged the 14 of largest 20 wind energy purchases in US.**

August 8-11, 2004

www.energy2004.ee.doe.gov




Community Energy, Inc. (CEI)


- ❖ **Link Customers to LOCAL wind farms**
- ❖ **By End of 2004 CEI will have helped bring over 200 megawatts of new wind on-line.**
- ❖ **Over 2 Billion kwh of wind sold**

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Methods of buying

RECs sold stand-alone (self bundled)

RECs

- Renewable Energy Marketers
- Participating Competitive Suppliers

RECs bundled

RECs

+

Commodity energy purchase

=

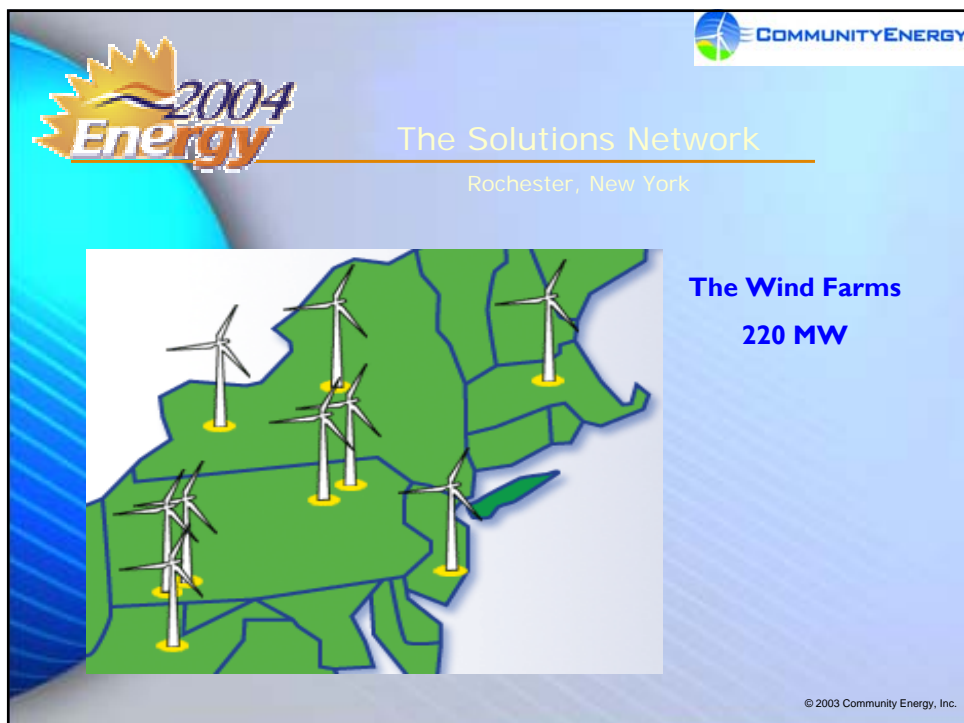
Bundled renewable product

Available from:

- Participating Utilities
- Participating Competitive Suppliers

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Wind Supply



The 15-MW Mill Run Wind Farm
Fayette County, PA
On-Line October 2001



The 9-MW Somerset Wind Farm
Visible From the PA Turnpike
On-Line October 2001



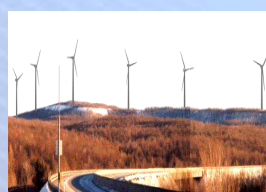
The 61-MW Pocono Wind Farm
Northeast of Scranton, PA
On-Line Fall 2003



The 66-MW Mountaineer Project
Allegheny Plateau, WV
On-Line December 2002

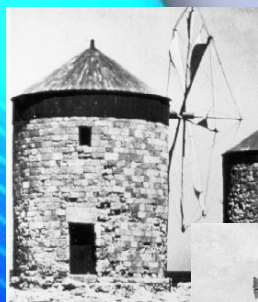


The 31-MW Fenner Wind Farm
Madison County, NY
On-Line June 2002



The 20 MW Bear Creek Wind Farm
Luzerne County, PA
Expected On-line 2005

Why Wind Power ?



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People Like Wind.....

❖ Understand it

- Clean
- Regional Economics
- Energy Independence

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“Solar, wind and tidal are almost always seen as clean, readily available, free, natural, and renewable. These power sources epitomize ‘green,’ and serve as archetypes for the category. On a scale of 1 to 10, where 10 means extremely friendly to the environment, Wind was rated 9.18 and solar was rated at 9.12.”

-- EPRI Report

Preferences Among Energy Resources

Energy Resource	Somewhat or Strongly Favor (%)	Somewhat or Strongly Oppose (%)	Don't Know (%)	Totals (%)
Solar	93	5	2	100
Wind	91	9	0	100
Natural Gas	83	11	6	100
Geothermal	71	13	16	100
Landfill Gas	64	18	18	100
Forest Waste	59	29	12	100
Nuclear	31	63	6	100
Coal	24	69	7	100

Willingness to Pay for Electricity from Renewable Resources: A Review of Market Research -- July 1999
Barbara C. Farhar, Ph.D., National Renewable Energy Laboratory, www.nrel.gov



Environmental Ratings of Electric Generation

Power Scorecard: Environmental Defense, Izaak Walton League, Natural Resources Defense Council, Northwest Energy Coalition, Union of Concerned Scientists

TECHNOLOGY (default for general fuel types in bold)	Score	CO2	SOx	NOx	Mercury	Water Use	Water Quality	On-Site Land Use	Off-Site Land Use
Solar Distributed PV	0.0	0	0	0	0	0	0	0	0
Wind Turbine Plant: low land impact	0.1	0	0	0	0	0	0	1	0
Wind Turbine Plant: Poorly Sited	1.1	0	0	0	0	0	0	10	0
Geothermal: Binary Technology	1.4	0	0	0	0	1	6	3	1
Landfill Gas (IC Engine, high NOx rate)	1.8	0	1	7	1	1	0	3	1
Low Impact Hydro	1.8	0	0	0	0	4	4	4	4
Geothermal: Flash Technology	2.0	1	1	1	0	2	6	3	3
Biomass: Certified Sustainable Fuel, NOx Controls	2.1	0	1	5	1	1	6	2.5	2
Biomass: Certified Sustainable Fuel High NOx	2.2	0	1	6	1	1	6	2	2.5
Solar Central Station PV	2.6	0	0	0	0	1	6	14	0
Biomass: Some CC Benefit "clean supply", NOx Controls	3.0	2	1	5	1	1	6	5	4
Hydro Plant: Private, Post-1986 Relicens	3.6	0	0	0	0	8	8	8	8
Biomass: High NOx, Some CC Benefit, mixed supply	3.7	2	1	6	6	1	6	5	4
Natural Gas Combined Cycle (w/NOx controls)	3.9	5	1	5	1	4	6	3	5
Natural Gas Combined Cycle	4.0	5	1	6	1	4	6	3	5
Biomass: Wood Fueled, High NOx, Biomass not replaced	4.1	4	1	6	6	1	6	5	4
Gas Fired Steam Electric (w/SCR and SWI)	4.3	6	1	5	1	5	6	4	5
Gas Fired Steam Electric	4.4	6	1	6	1	5	6	4	5
Natural Gas Combustion Turbine	5.2	9	1	8	1	1	6	6	5
Biomass: Wood Fuel, High NOx, No CC Benefit, has waste	5.4	10	1	6	6	1	6	5	4
Hydro Plant: default	5.6	0	0	0	0	10	10	15	15
Oil-Fired Steam Electric (0.5% sulfur content)	5.9	8	3	7	4	6	6	4	7
Oil Fired Combustion Turbine	6.0	9	4	8	5	1	6	5	6
Oil-Fired Steam Electric (1.0% sulfur content)	6.1	8	4	7	4	6	6	4	7
Oil-Fired Steam Electric	6.2	8	6	7	4	6	6	4	7
Coal With FGD (low mercury content)	8.1	10	4	10	6	9	6	5	13
Coal With FGD (high mercury content)	8.4	10	4	10	9	9	6	5	13
Coal Fired Steam Electric	8.8	10	10	10	10	9	6	5	9
Nuclear	11.8	0	0	0	0	10	6	55	34
Mass Burn Municipal Waste	Under	Review	--	To	Be	Added	Soon	--	--

NewWind Energy® Environmental Benefits

- Concept of "reductions" makes sense
- Buyer claims wind and all the emissions benefits

System Average: (Regional Power Pool)

CO2	SO2	NOx	Hg
Tons/MWh	lbs./MWh	lbs./MWh	lbs./MWh
0.6	9.01	2.81	0.0000356

One Turbine Saves:

Coal Tons/Year	CO2 lbs./Year	SO2 lbs./Year	NOx lbs./Year	Hg lbs./Year	Planting X Number of Trees	Miles Not Driven
1,548	2,674	38,295	12,467	0.14	320,000	5,348,305

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Why Organizations buy wind.....

❖ Why pay More Money for electricity ?

➤ When:

- Won't notice the difference?
- Business costs are rising?
- Competition is tougher than ever?

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Alignment with Goals

- Citizenship ----- **Support New Wind Farms in "Home Grid"**
- Environmental Stewardship ---- **Easily understood**
- Political Good Will ----- **Reduces Governmental / Policy Pressure**
- Strong Public Relations Rewards ----- **Relevant topic**
- Green Building LEED Points ----- **Easy and non invasive**
- Aligns with Corporate Values----- **Leadership !!!!**

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14 of 18 Largest US Wind Energy Purchases

Organization	Percent Wind	kWh/ year	# of Turbines
State of New Jersey	7.5%	54,900,000	13.7
University of Pennsylvania	11%	40,000,000	10.0
Johnson & Johnson	7.5%	19,140,000	4.8
Penn State University	5%	17,600,000	4.4
University of Buffalo	2%	8,000,000	2.0
Carnegie Mellon University	6%	5,805,000	1.5
The World Bank	6%	4,000,000	1.0
The US Army	N/A	4,000,000	1.0
Catholic University	11.7%	4,000,000	1.0
Drexel University	9.5%	4,000,000	1.0
Giant Eagle Supermarkets	3%	3,000,000	0.75
PA Turnpike Commission	5%	2,600,000	0.65

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The Cost Dilemma

- **Flexible Purchasing Methods (direct or through supplier)**
- **Flexible purchase amounts (1%- 100%)**
- **% of savings from competitive supply switching**
- **% of savings from “conservation projects”**
- **Marketing / PR funds ----- Trade off .**

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The Results (NEW wind farms)

